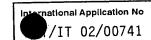
## INTERNATIONAL SEARCH REPORT





A. CLASSIFICATION OF SUBJECT MATTER IPC 7 B23Q39/00 B23Q39/04

B23Q41/00

B23Q7/04

B23Q1/66

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC 7 B23Q B23B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

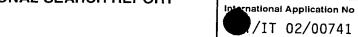
EPO-Internal, WPI Data, PAJ

. DOCUME	NTS CONSIDERED TO BE RELEVANT	Retevant to claim No.
Calegory °	Citation of document, with indication, where appropriate, of the relevant passages	
<b>X</b>	US 4 782 567 A (AIHARA SEIICHI ET AL) 8 November 1988 (1988-11-08) column 4, line 48 - line 63 column 8, line 28 -column 13, line 8 figures 1,4,8	1,4,5
A	US 4 999 895 A (HIROSE AKIRA ET AL)  19 March 1991 (1991-03-19)  column 1, line 30 - line 40  column 3, line 7 -column 4, line 20  figures 1-3  -/	1,2,4

Y Further documents are listed in the continuation of box C.	χ Patent family members are listed in annex.
Special categories of cited documents:  'A' document defining the general state of the art which is not considered to be of particular relevance  'E' earlier document but published on or after the international filing date  'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  'O' document referring to an oral disclosure, use, exhibition or other means  'P' document published prior to the international filing date but later than the priority date claimed	<ul> <li>'T' later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</li> <li>'X' document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</li> <li>'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</li> <li>'&amp;' document member of the same patent family</li> </ul>
Date of the actual completion of the international search	·Date of mailing of the international search report
10 December 2003	18/12/2003
Name and mailing address of the ISA  European Patent Office, P.B. 5818 Patentlaan 2  NL - 2280 HV Rijswijk  Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer  Breare, D



## INTERNATIONAL SEARCH REPORT



	ation) DOCUMENTS CONSIDERED TO BE RELEVANT			
Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.		
A	DE 44 41 106 A (SCHERER FEINBAU GMBH) 23 May 1996 (1996-05-23) column 1, line 19 - line 52 column 2, line 2 - line 18 column 2, line 32 - line 35 column 3, line 21 -column 4, line 43 claim 10 figures		1	
A	US 4 984 351 A (MATSUYAMA FUTOSHI ET AL) 15 January 1991 (1991-01-15) column 3, line 32 -column 5, line 29 column 6, line 39 - line 41 column 6, line 58 - line 59 figures 1-6,11		1	
A	DE 37 22 180 A (CROSS EUROPA WERK GMBH) 12 January 1989 (1989-01-12) column 7, line 65 -column 10, line 60 column 12, line 37 -column 15, line 4 figures 1-5,8	•	1	
1	DE 201 18 456 U (KESSLER KG MASCHF) 31 January 2002 (2002-01-31) page 9, line 9 -page 10, line 25 figure 2		2,3	
	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 11, 29 November 1996 (1996-11-29) -& JP 08 174304 A (MURATA MACH LTD), 9 July 1996 (1996-07-09) abstract; figures		6,7	
	US 6 298 531 B1 (BAUER WALTER ET AL) 9 October 2001 (2001-10-09) column 5, line 65 -column 6, line 5 column 7, line 3 -column 8, line 14 figures 1-6			

Form PCT/ISA/210 (continuation of second sheet) (July 1992)

## INTERNATIONAL SEARCH REPORT

on on patent family members

International Application No
/IT 02/00741

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 4782567	Α	08-11-1988	GB	2202768 A	05-10-1988
US 4999895	Α	19-03-1991	NONE		
DE 4441106	Α	23-05-1996	DE	4441106 A1	23-05-1996
US 4984351	Α	15-01-1991	DE	3921042 A1	28-12-1989
DE 3722180	Α	12-01-1989	DE	3722180 A1	12-01-1989
DE 20118456	U	31-01-2002	DE	20118456 U1	31-01-2002
JP. 08174304	Α	09-07-1996	JP	2993383 B2	20-12-1999
US 6298531	B1	09-10-2001	DE DE WO EP	19725630 A1 19746494 A1 9857777 A1 0989923 A1	24-12-1998 29-04-1999 23-12-1998 05-04-2000